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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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James C. Camp

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EXAMINER

PHUNKULH, BOB A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/777,351	Applicant(s) CAMP, JAMES C.	
	Examiner BOB A. PHUNKULH	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 38-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 21, 25-30, 43-47 is/are rejected.
- 7) ☒ Claim(s) 16-20, 22-24 and 31-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/10/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim 28 is objected to because of the following informalities: the subject matter "said threshold value" appears referring to "predetermined value" in claim 25, please correct if that is true. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15, 21, 25-26, 28-30, 43-47 are rejected under 35 U.S.C. 102(e) as being anticipated by AGRAWAL et al. (US 6,748,234), hereinafter AGRAWAL.

Regarding claim 1, AGRAWAL discloses a communication system, comprising: a multi-channel signal regulation system that limits an aggregate signal (a composite channel) in response to an indication that the aggregate signal exceeds a threshold value, the aggregate signal being formed from a plurality of input signals (the composite channel comprise of a plurality of transport channels, a method for power control includes assigning a power indicator to each of the plurality of transport channels, decrementing the power indicator of each of the plurality of transport channels having a transmission error, incrementing the power indicator of each of the plurality of transport

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channels without a transmission error, determining a maximum power indicator from the power indicators of each of the plurality of transport channels, and making a power control decision based on the maximum power indicator, see col. 1 line 65 to col. 2 line 12)

Regarding claim 2, *AGRAWAL* discloses wherein the plurality of input signals are subject to constructive interference (see claims 1 and 4, the power indicators are signal-to-interference ratios).

Regarding claim 3, *AGRAWAL* discloses regulation system limits the aggregate signal by reducing the plurality of input signals to provide a plurality of corrected input signals (incrementing/decrementing each of the power indicators, see col. 2 lines 1-12).

Regarding claim 4, *AGRAWAL* discloses the regulation system further comprises an error signal generator which responds to the composite signal exceeding the threshold value by generating an error signal, the power regulators applying the error signal to the input signals to limit the aggregate signal (error detection unit 210 could be in the mobile station or base station, see col. 7 lines 53-66, the transmit powers for each transport channel is adjusted based on the output from the error detection unit, see col. 2 lines 23-36).

Regarding claim 5, *AGRAWAL* inherently discloses the regulation system applies a weighted allocation factor to the error signal (see col. 2 lines 23-36).

Regarding claim 6, *AGRAWAL* discloses the error signal generator generates a desired composite signal with a magnitude limited to the threshold value and in phase with the aggregate signal (see col. 2 lines 1-12; and col. 2 lines 23-36).

Regarding claim 7, *AGRAWAL* inherent features discloses at least one additional communication system cascaded with the communication system (data source, not shown in the figures).

Regarding claim 8, *AGRAWAL* discloses the at least one additional communication system limits an aggregate signal formed from the plurality of corrected input signals in response to an indication that the aggregate signal formed from the plurality of corrected input signals exceeds the threshold value (see col. 2 lines 13-22).

Regarding claim 9, *AGRAWAL* discloses a plurality of channel power regulators, each sensing a corresponding input signal in a plurality of input signals (a plurality of transport channels, see col. 2 lines 1-12) and reducing the input signal in response to an indication that a composite signal formed from the plurality of input signals exceeds a threshold value (adjusting/incrementing/decrementing the power indicators for each channel, see col. 1 lines 65 to col. 2 lines 13).

Regarding claim 10, *AGRAWAL* discloses the composite signal is formed from the superposition of the plurality of input signals (multiplexing the plurality of channels into a composite channel, see col. 2 lines 1-13).

Regarding claim 11, *AGRAWAL* discloses a threshold detector which detects when the composite signal exceeds the threshold value (see col. 2 lines 13-23).

Regarding claim 12, *AGRAWAL* discloses an error signal generator which responds to the composite signal exceeding the threshold value by generating an error signal, the power regulators applying the error signal to the input signals to limit the composite signal to the threshold value (decrementing the power indicator of each of the plurality of transport channels having a transmission error, incrementing the power indicator of each of the plurality of transport channels without a transmission error, see col. 2 lines 23-36).

Regarding claim 13, *AGRAWAL* discloses the plurality of channel power regulators provide an allocation factor, the allocation factor being applied to the error signal (incrementing/decrementing the power indicator for each of the channel- thus there must be a plurality of power regulators, see col. 2 lines 1-12).

Regarding claim 14, *AGRAWAL* discloses the error signal generator generates a desired composite signal with a magnitude limited to the threshold value and in phase with the composite signal (incrementing the power indicator of each of the plurality of transport channels without a transmission error, determining a maximum power indicator from the power indicators of each of the plurality of transport channels; and determining a composite quality threshold for the composite transport channel, wherein the composite quality threshold is equal to a maximum of the individual quality thresholds, see col. 2 lines 1-23).

Regarding claim 15, *AGRAWAL* discloses the plurality of channel power regulators are coupled to a multi-carrier communication channel (incrementing/decrementing the power indicator for each of the channel- thus there must be a plurality of power regulators, see col. 2 lines 1-12).

Regarding claim 21, *AGRAWAL* discloses at least one additional communication system cascaded with the communication system (the system is cascaded to the source, not shown in the figures).

Regarding claim 25, *AGRAWAL* discloses a transmit signal processor, comprising:

a multi-channel signal regulation system that limits an aggregate signal in response to an indication that the aggregate signal exceeds a predetermined value (a

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composite quality threshold), the aggregate signal being formed from a plurality of input signals (see col. 2 lines 13-22);

a multi-carrier communication channel coupled to the signal regulation system (a composite transport channel, see col. 2 lines 13-22); and

an output stage coupled to the multi-carrier communication channel (see col. 2 lines 13-22).

Regarding claim 26, *AGRAWAL* discloses the plurality of input signals includes digital data encoded using one of code division multiple access and frequency division multiple access (see background of invention).

Regarding claim 28, *AGRAWAL* discloses the regulation system includes a threshold detector which detects when the composite signal exceeds the threshold value (whether it exceeds the maximum power indicator, see col. 2 lines 1-13).

Regarding claim 29, *AGRAWAL* discloses the threshold stores successive samples of the composite signal (see col. 2 lines 1-13).

Regarding claim 30, *AGRAWAL* discloses the regulation system includes an error signal generator which responds to the composite signal exceeding the threshold value by generating an error signal, the power regulators applying the error signal to the input signals to limit the aggregate signal (see col. 2 lines 23-36).

Regarding claim 43, *AGRAWAL* discloses a method of adjusting the amplitude of a composite signal in a communication system, the method comprising:

sensing a plurality of input signals (receiving data streams via a plurality of transport channels, see col. 2 lines 1-12);

forming the composite signal from the plurality of input signals (the plurality of transport channels are multiplex into a composite channel, see col. 2 line 1-12);

comparing the magnitude of the composite signal to a predetermined value (composite quality threshold value, see col. 2 lines 13-22); and

scaling at least one input signal in the plurality of input signals to reduce the composite signal relative to the predetermined value (determining/adjusting an individual quality threshold for each of the transport channel, see col. 2 line 1-12).

Regarding claim 44, *AGRAWAL* discloses the step of scaling the input signal includes a step of combining an error signal with each input signal to reduce the composite signal (decrementing an individual quality threshold for each of the transport channel having error, see col. 2 line 1-12).

Regarding claim 45, *AGRAWAL* inherently discloses including a step of adjusting the error signal in response to a difference between the magnitude of the composite signal and the predetermined value (inherent feature-the receiver may determine the received error as a whole by determining the threshold of the combined signal).

Regarding claim 46, *AGRAWAL* inherently discloses the step of combining the error signal with each input signal includes a step of scaling each input signal by the same amount (inherent feature-the receiver may determine the received error as a whole by determining the threshold of the combined signal and adjusting the input signals equally).

Regarding claim 47, *AGRAWAL* inherently discloses the step of combining the error signal with each input signal includes a step of scaling each input signal by an amount proportional to the magnitude of the corresponding input signal (inherent feature-the receiver may determine the received error as a whole by determining the threshold of the combined signal and adjusting the input signals according to the amount of it input).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over
AGRAWAL.

Regarding claim 27, *AGRAWAL* fails to disclose that the output stage includes amplifier and the predetermined value (the threshold of the composite signal) is determined by the amplifier.

Using the amplifier in the communication is well known in the art to amplifies the communication signal (analog or digital) in order to strengthen the signals.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to includes an amplifier in the system taught by *AGRAWAL* in order to strengthen the transmitted signals.

Allowable Subject Matter

Claims 16-20, 22-24, and 31-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal Service (USPS) only:

Mail Stop _____
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Alexandria, VA 22313-1450

or faxed to:

(571) 273-8300, (for formal communications intended for entry)

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Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Jay Patel**, can be reach on **(571) 272-2988**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Bob A. Phunkulh/
Primary Examiner, Art Unit 2619